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EXAMINER

MORRISON, THOMAS A

ART UNIT PAPER NUMBER

3653

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 5 and 7-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the duplex paper printing path" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

With regard to claim 7 and its dependent claims 8-10, it is unclear what elements make up the recited "paper sensor". Are the first, second and third levers part of the paper sensor? For example, sensor (120) in Fig. 2 of the instant application does not appear to sense paper. Rather, sensor (120) appears to sense the presence or absence of one of the levers. As such, the combination of the levers and the sensor (120) appears to be what senses the paper. In other words, it is the examiner's position that claim 7 inaccurately claims the first, second and third levers as separate elements from the claimed paper sensor set forth in claim 7.

Regarding claim 11 and its dependent claims 12-34, it is unclear in claim 11 how many different first slots there are in the duplex printing paper path. Line 2 of claim 11 recites "a first slot", and then line 8 of claim 11 also recites "a first slot".

Claim 23 recites the limitation "the second slot in the duplex printing paper path" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 34, this claim recites "the slot of a duplex printing paper shaft". This appears to be inaccurate. Rather, it appears that this claim should recite "the slot of the duplex printing paper path."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5 and 6, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's admitted prior art in Fig.1 and the background section of the instant application.

Regarding claim 1, Fig. 1 shows a paper detecting apparatus (including 10, 15, and 13) of an image forming machine (Fig. 1) having a duplex printing function (i.e., see numbered paragraph [0004] of instant application) including

an actuator (including 13) pivotably disposed above a paper feed cassette (30) and below a duplex printing paper path (40), that is moved by a paper; and

a paper sensor (15) disposed next to the actuator (including 13) that senses movement of the actuator (including 13) and generates a signal, wherein the actuator (including 13) pivots in a predetermined angle when no paper is stacked in the paper

feed cassette (30), and the paper sensor (15) generates a signal upon sensing the actuator (including 13) pivot.

Regarding claim 6, the numbered paragraph [0009] discloses that the paper sensor (15) is a photo sensor.

Turning now to claim 5, Fig. 1 also shows a paper detecting apparatus (including 20, 25, and 23) of an image forming machine (Fig. 1) having a duplex printing function (i.e., see numbered paragraph [0004] of instant application) including

an actuator (including 23) pivotably disposed above a paper feed cassette (30) and below a duplex printing paper path (40), that is moved by a paper; and

a paper sensor (25) disposed next to the actuator (including 23) that senses movement of the actuator (including 23) and generates a signal, wherein the actuator (including 23) pivots in a predetermined angle when paper is being fed along the duplex printing paper path (40), and the paper sensor (25) generates a signal upon sensing the actuator (including 23) pivot; and

a stopper (end of slot 42) formed on the duplex paper printing path (40) limiting pivoting space of the actuator (including 23). More specifically, the length of the swing slot 42 in Fig. 1 of the instant application defines the limits of the pivoting space of the actuator. As such, applicant's admitted prior art Fig. 1 and the background section of the instant application meets all of the limitations of claim 5 as now amended.

Response to Arguments

3. Applicant's arguments filed 09/02/2005 have been fully considered but they are not persuasive. In response to the indefiniteness rejection of claims 7-10, applicant argues, "By way of review, even though the sensor 120 does not detect a paper directly but it detects the presence of the paper indirectly. Therefore, it is respectfully submitted that is appropriate to refer a sensor 102 as a "paper sensor".

In response, it is noted that the combination of the levers and the sensor (120) appears to be what senses the paper. As such, it is the examiner's position that claim 7 inaccurately claims the first, second and third levers as separate elements from the claimed paper sensor in claim 7. Thus, the rejection of claims 7-10 has been repeated in this Office Action.

Regarding the prior art rejection of claims 1, 5 and 6 in view of applicant's admitted prior art in Fig. 1 and the background section, applicant argues that "the background of the present invention discloses two actuators and two sensors are used to detect paper in the paper feed cassette or is being fed along the duplex printing paper path but fails to disclose 'a paper sensor disposed next to the actuator that senses movement of the actuator and generates a signal, wherein the actuator pivots in a predetermined angle when no paper is stacked in the paper feed cassette or when paper is being fed along the duplex printing paper path, and the paper sensor generates a signal upon sensing the actuator pivot.' as recited in claim 1.

In response, it is first noted that claim 1 recites the term "or". As such, if the prior art discloses **either one** of the two recited functions in claim 1 (i.e., the actuator pivots

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in a predetermined angle **when** no paper is stacked in the paper feed cassette or **when** paper is being fed along the duplex printing paper path), such limitations of claim 1 are met by the prior art. Elements 10, 13 and 15 of applicant's admitted prior art Fig. 1 show the function in which the actuator (including 13) pivots in a predetermined angle when no paper is stacked in the paper feed cassette (30). Also, the numbered paragraph [0009] of the background section discloses that the first sensor (15) senses the movement of the sensor operator 12 (i.e., 12 being part of the actuator (including 13)) when there is no paper on the paper feed cassette (30). Moreover, the first sensor (15) inherently generates a signal, as claimed. In addition, the other elements of claim 1 are outlined in the prior art rejection of claim 1 above.

Allowable Subject Matter

4. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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